



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

g

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,778	12/06/2001	Jack Harwood	EMC-01-087CIP(A)	5871

7590 05/16/2005

Krishnendu Gupta, Esq.
EMC Corporation
Office of the General Counsel
35 Parkwood Drive
Hopkinton, MA 01748

EXAMINER

TRAN, NGHI V

ART UNIT

PAPER NUMBER

2151

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/010,778	HARWOOD ET AL.
	Examiner	Art Unit
	Nghi V. Tran	2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 April 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sicola et al., U.S. Patent No. 6,643,795 (hereinafter Sicola), in view of Aruga, U.S. Patent No. 6,542,954.

3. With respect to claims 1, 4, 9, and 12, Sicola teaches a network adapter capable of being used to interface to a network environment a data storage system input/output (I/O) controller, the data storage system I/O controller residing in a first network data storage system, the network environment being external to the network data storage system [figs.1-4 and see abstract], the network adapter comprising:

- an interface [107 or 306] capable of being used to couple the network adapter to the data storage system I/O controller via a backplane in the first data storage system [figs.1-3];
- a switching system [103 i.e. switched fabric] capable of being coupled to data exchanging devices in the network environment, the switching system being

coupled to the data storage system I/O controller [201-202 or 211-212] when the one or more interfaces couple the network adapter to the data storage system I/O controller [col.6, Ins.20-51]; and

- port circuitry [107] capable of being used to facilitate establishment of a link between the first network data storage system [111] and a second network data storage system [112] in the network environment, the second network data storage system being remote from the first network data storage system [fig.2], the link, when established, facilitating establishment of a target device in the second network data storage system as a data mirroring device [col.3, Ins.56 - col.4, Ins.32] capable of comprising a mirror of data residing in a source device in the first network data storage system.

However, Sicola is silent on the interface comprising two sets of data and control/management interfaces.

In a data storage system, Aruga discloses the interface [16 or 16' i.e. protocol controller] comprising two sets of data and control/management interfaces [col.4; Ins.15-27].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Sicola in view of Aruga by specifying two sets of data and control/management interfaces because this feature allows direct connection to the disk drive units [Aruga, col.4, Ins.29]. It is for this reason that one of ordinary skill in the art at the time of the invention would have been motivated to modify Sicola in view of Aruga in order to provide a switch connection having a protocol

converter for converting a protocol used between a disk drive unit and a controlling device to allow the disk drive unit and the controlling device to be connected one to one in a switch [Aruga, col.2, Ins.15-20].

4. With respect to claims 2, 5, 10, and 13, Sicola further teaches the switching system comprises a fibre channel switching fabric [103].
5. With respect to claims 3 and 11, Sicola further teaches the network adapter [107] is an electrical circuit card that is configured to be electrically and mechanically ["mechanically" is interpreted as "produced or operated by a machine"] coupled to the backplane [fig.1-2; col.6, Ins.45-62; and col.7, Ins.16-60].
6. With respect to claims 6-7 and 14-15, Sicola further teaches the source device and target device comprise respective logical data volumes [fig.4 i.e. LUNs].
7. With respect to claims 8 and 16, Sicola further teaches the second network data storage system is geographically remote [col.7, ln.61 - col.8, ln.17] from the first network data storage system [fig.2].

Response to Arguments

8. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi V Tran
Patent Examiner
Art Unit 2151

NT



ZARNI MAUNG
SUPERVISORY PATENT EXAMINER